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VOL. 22 No. 18 May 5, 1972

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Cooperative Economic Insect Report

Issued by
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ANIMAL AND PLANT HEALTH SERVICE
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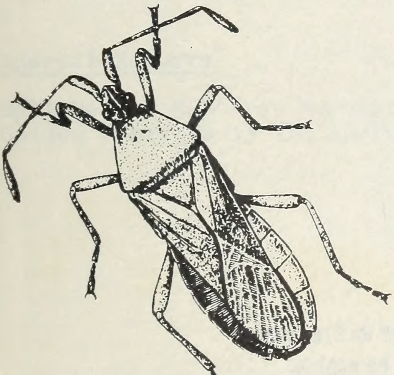

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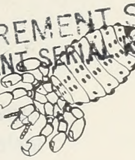

ANIMAL AND PLANT HEALTH SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
ECONOMIC INSECT SURVEY AND DETECTION STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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Economic Insect Survey and Detection
Plant Protection and Quarantine Programs
Animal and Plant Health Service
United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20782

Volume 22 May 5, 1972 Number 18

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

ALFALFA WEEVIL continues heavy in Oklahoma, Arkansas, Missouri, d Illinois. (p. 252).

EET ARMYWORM larvae and WESTERN FLOWER THRIPS need controls in otton in Arizona. (p. 253).

SOUTHERN PINE BEETLE at outbreak levels in portions of southern United States. (p. 255). Map on page 254.

Number of SCREWWORM cases continues to increase in the United States. (p. 256).

Detection

For new county records see page 257.

Special Reports

Boll Weevil Survival Surveys - Spring 1972 (pp. 259-262).
Golden Nematode in the United States (p. 264).

Reports in this issue are for week ending April 28 unless otherwise indicated.

CONTENTS

Special Insects of Regional Significance........................251

Insects Affecting

Corn, Sorghum, Sugarcane 251
Small Grains.................251
Forage Legumes...............252
Cotton.......................253
Potatoes, Tomatoes, Peppers..253
Cucurbits....................253
General Vegetables...........253
Deciduous Fruits and Nuts.253
Citrus....................255
Small Fruits..............255
Ornamentals...............255
Forest and Shade Trees....255
Man and Animals...........256

Beneficial Insects..256
Federal and State Plant Protection Programs.................256
Detection...257
Hawaii Insect Report..258
National Weather Service's 30-Day Outlook......................258
Boll Weevil Survival Surveys - Spring 1972.....................259
Light Trap Collections..263
Golden Nematode in the United States...........................264

WEATHER OF THE WEEK ENDING MAY 1

Reprinted from weekly Weather and Crop Bulletin supplied by environmental Data Service, NOAA.

PRECIPITATION: Early in the week a cold front stretched from a storm centered north of Maine southward to Georgia, thence westward to the Lower Rio Grande. Showers dampened an area from the lower Great Lakes to New England and southward to the Florida Peninsula. Showers fell in the Far West from Vancouver to middle California coast with snow in the higher elevations in the north. Strong winds raised clouds of dust and sand in the California deserts. Winds at Palm Springs, California, gusted to 61 m.p.h. Monday afternoon. A slow moving storm crossed the central Rocky Mountains to the western Great Plains about midweek. Heavy snow fell at Denver, Colorado, Wednesday, accumulating to 12 inches by evening. Snow was accompanied by strong gusty winds. Winds at Colorado Springs, Colorado, gusted to 60 m.p.h. Cold fronts stretched northward from a storm center to Lake Manitoba and southward to the Trans-Pecos in Texas. Generous rains fell along the fronts. Precipitation was especially heavy from eastern Nebraska to north-central Texas. Fair weather prevailed over most areas away from the storm center and fronts. A storm dissipated over the Great Plains over the weekend, but another storm developed in the central Rocky Mountains and moved to the nearby Great Plains. This storm brought several inches of snow to some localities in the northern Rocky Mountains, severe thunderstorms and a few tornadoes in the central Great Plains. Some of thunderstorms were accompanied by damaging winds and large hail. Kansas was especially hard hit by severe storms. Hail over 2 inches in diameter fell in parts of Butler and Anderson Counties. Strong winds damaged roofs and store fronts in Abilene. Scattered thundershowers also occurred elsewhere in the Great Plains and across the Mississippi River Valley to the Great Lakes region.

Weather of the week continued on page 263.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMY CUTWORM (Euxoa auxiliaris) - WYOMING - Larvae 1 per square foot of alfalfa near Powell, Park County. (Pike). COLORADO - Larvae in winter wheat in La Plata County. (Lorenz). KANSAS - Few late instar larvae still in northwest district. (Bell).

ARMYWORM (Pseudaletia unipuncta) - MISSOURI - Larvae ranged 0.5-2.5 per row foot of wheat in southeastern area. (Houser). Light, ranged 0-6 per square foot southwestern and south-central areas in fescue and orchard grass. (Munson). ARKANSAS - Few light infestations in Crittenden and St. Francis Counties. (Sterling). MISSISSIPPI - Larvae ranged 3-15 per square foot in wheat and oats in many delta counties. (Young).

ASTER LEAFHOPPER (Macrosteles fascifrons) - MINNESOTA - Counts of 2 per 100 sweeps in bluegrass, rye, and quackgrass in Dakota County, April 20. (Minn. Pest Rpt.). WISCONSIN - Appears to be dispersed statewide and few areas showed populations of 0.5 per 100 sweeps in western Waushara County, 6 per 100 sweeps in western Fond du Lac County, and 37 per 100 sweeps in southern Trempealeau County. (Wis. Ins. Sur.).

CORN EARWORM (Heliothis zea) - TEXAS - Larvae moderate to heavy on corn in Harris County. Larvae 1 per stalk on corn 36 inches tall. No economic damage expected. (Green).

GREENBUG (Schizaphis graminum) - WASHINGTON - Single specimen collected in wheat near Prosser, Benton County, April 26. Populations almost eliminated by high winds and cold temperatures during January. None found in February and March. (Klostermeyer). ARKANSAS - Infestations in two fields of wheat and one field of oats in Craighead County; few small spots of oats damaged but no damage in wheat. (Boyer).

SPOTTED ALFALFA APHID (Therioaphis maculata) - UTAH - Appeared in Washington County alfalfa fields. (Huber). KANSAS - Averaged 1 per 10 sweeps in alfalfa in Rawlins County, first of season. (Bell).

CORN, SORGHUM, SUGARCANE

MAIZE BILLBUG (Sphenophorus maidis) - ALABAMA - Adults damaged 70+ percent of young corn plants in large cornfield in Houston County. (Roney).

SMALL GRAINS

BROWN WHEAT MITE (Petrobia latens) - NEVADA - Continues heavy on winter wheat in Pershing County; additional 100 acres treated. (Stitt). COLORADO - Damaging infestations in southeast and south-central areas on winter wheat. (Hantsbarger). OKLAHOMA - Populations still scattered and heavy in Cotton County wheat. (Okla. Coop. Sur.). KANSAS - Heaviest count, 500 per row foot of wheat, in Rawlins County, light foliar damage noted in this field. (Bell).

CHINCH BUG (Blissus leucopterus leucopterus) - OKLAHOMA - First of season in wheat. Ranged 0-12 per linear foot in Craig County and 0-1 in Mayes County. (Okla. Coop. Sur.).

ALFALFA WEEVIL (Hypera postica) - NEW MEXICO - Larvae light to heavy, ranged 10-75 per 25 sweeps, in alfalfa at Albuquerque, Bernalillo County. (Heninger). OKLAHOMA - Larvae still in northern area alfalfa (up to 150 per 10 sweeps in some fields) but generally decreasing. Adults increasing, ranged 8-45 per sweep in Stephens County and averaged 25 per square foot in Lincoln County. Continues moderate to heavy in most southern areas. (Okla. Coop. Sur.). ARKANSAS - Populations still heavy, but declined from previous levels. Ranged 500-600 per 100 sweeps of alfalfa at Fayetteville, Washington County. Specimens collected from crimson clover in Drew County. This is a new county record. (Boyer). MISSOURI - Larval counts of H. postica still heavy in southern areas. Newly emerged adults ranged 0-4 per sweep in some fields in southwestern and south-central areas. (Munson).

INDIANA - Larval damage ranged 12-58 percent of total leaf surface in some southern areas. Generally, larval damage ranged 1-12 percent on alfalfa. Feeding in the central district still confined to tips, but sometimes involves 50 percent of plants. Northern portion of central district feeding very light. Plant growth in southern districts variable. Larval development advanced in this area and more damage results. Larval parasitism this year, compared with 1971, is less.Adults of an ichneumon wasp (Bathyplectes sp.) observed in every field surveyed in southern districts, population less than in fall of 1971. (Meyer). ILLINOIS - H. postica larval counts of 1+ per sweep found throughout southern two-thirds of State. Economic populations of 20+ larvae per sweep recovered south of a line from Hancock County in west to Coles County in east. Heaviest counts in southwestern area. Many untreated fields nearly destroyed. (Ill. Ins. Sur.).

OHIO - Surveys one hour after dark revealed adult H. postica counts of 5-6 per 50 sweeps of alfalfa in Athens County and 0-1 per 50 sweeps in Auglaize County. Hatch noted in Allen County; feeding noted on 30 percent of foliage. (Fox). DELAWARE - Some feeding noted on 10-50 percent of stalks in Kent and Sussex Counties. First to third instar larvae ranged 1-3 per stalk. (Burbutis). MARYLAND - H. postica populations increasing slowly. First, second, and few third instar larval damage ranged 1-10 percent in all fields surveyed. Development affected by three unusually cool days. In most fields, alfalfa growing out of early injury. All fields throughout State below economic thresholds. (U. Md., Ent. Dept.). VIRGINIA - Based on 25 fields surveyed (193 acres) tip infestation of alfalfa less than 6 inches tall declined to 27.9 percent. Most tip samples taken in mountain areas; infestations had been predicted to be light. Average defoliation 7.3 percent in these areas; 57 percent of fields in mountains exceeded treatment threshold. Damage may still occur. (Allen).

KENTUCKY - Eggs averaged 182 per square foot in Fayette County alfalfa. Adult Bathyplectes curculionis (an ichneumon wasp) averaged 4-5 per 100 sweeps. Larvae of H. postica ranged 0-3 per tip and 60 percent of tips infested in Bourbon County. Larvae averaged 380 per 100 sweeps in grassy stand. Larvae ranged 0-4 per tip with 80 percent of tips infested in Scott County. Larvae averaged 260 per 100 sweeps in Clark County. (Barnett, Parr). TENNESSEE - Most older alfalfa fields at control levels in middle and west areas; controls not practical in most of these fields. Surveys indicate controls moderately effective where applied in these areas. (Gordon et al.).

PEA APHID (*Acyrthosiphon pisum*) - NEW MEXICO - Mixed populations of this species and *Therioaphis maculata* (spotted alfalfa aphid) and *Petrobia latens* (brown wheat mite) required controls in many alfalfa fields in Chaves and Eddy Counties. (Mathews). Brown wheat mite light to heavy on alfalfa in Bernalillo County. (Heninger). MISSOURI - Moderate to heavy, ranged 100-200 per 10 sweeps of alfalfa and red clover in southwestern and south-central areas. (Munson).

COTTON

BEET ARMYWORM (*Spodoptera exigua*) - ARIZONA - Larvae heavy in some fields at Parker Valley, Yuma County. Some treatments necessary. (Ariz. Coop. Sur.).

WESTERN FLOWER THRIPS (*Frankliniella occidentalis*) - ARIZONA - Treatment applied to some fields at Parker Valley and Yuma Valley in Yuma County. Some fields formerly treated with systemics show damage, indicating chemicals expended or cultural and weather conditions inhibiting uptake of material. (Ariz. Coop. Sur.).

POTATOES, TOMATOES, PEPPERS

COLORADO POTATO BEETLE (*Leptinotarsa decemlineata*) - MISSISSIPPI - Heavy on Irish potatoes in Jones and Covington Counties. (Pepper). OKLAHOMA - Heavy on potatoes in Marshall County; also reported in Garvin County. First of season. (Okla. Coop. Sur.).

CUCURBITS

STRIPED CUCUMBER BEETLE (*Acalymma vittata*) - FLORIDA - Adults severe on squash near Chipley, Washington County. (Newsome).

GENERAL VEGETABLES

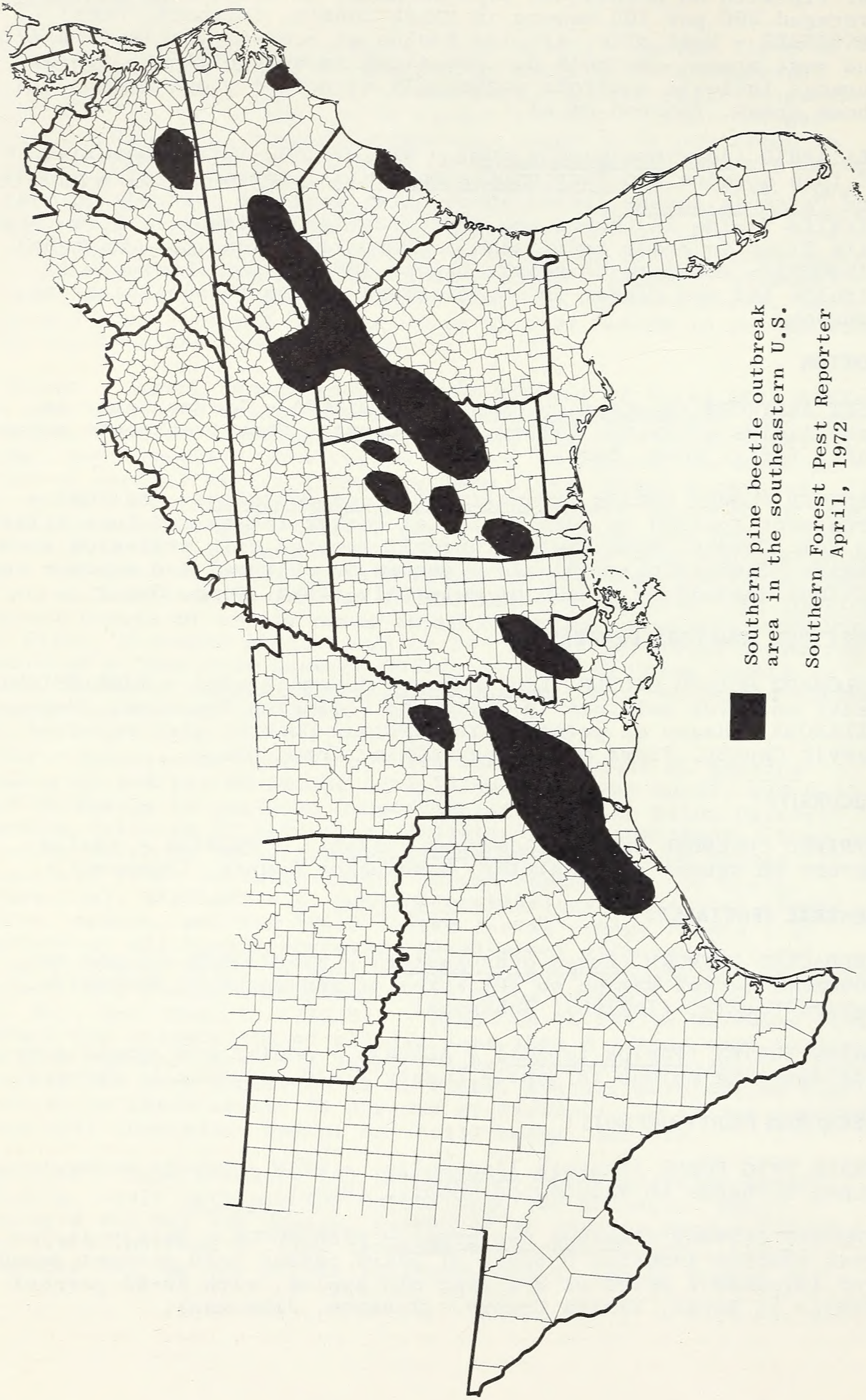
REDBACKED CUTWORM (*Euxoa ochrogaster*) - WASHINGTON - Light to moderate larval damage on 10+ acres of asparagus at Sunnyside, Yakima County. (Togashi, Johansen).

ONION THRIPS (*Thrips tabaci*) - ALABAMA - Adults and nymphs heavy and damaging onions in Mobile County field. (Driskell, Farrar).

DECIDUOUS FRUITS AND NUTS

PEACH TWIG BORER (*Anarsia lineatella*) - UTAH - Damage moderate in peach orchards in Washington County. (Huber).

SPOTTED CUTWORM (*Amathes c-nigrum*) - WASHINGTON - Mainly larvae of this species infested 8 acres of pears, caused 5-10 percent damage, and infested 2 acres of 3-4 year old apples, with 15-25 percent damage at Selah, Yakima County. (Johnson, Johansen).



■ Southern pine beetle outbreak area in the southeastern U.S.

Southern Forest Pest Reporter
April, 1972

FOREST TENT CATERPILLAR (Malacosoma disstria) - ALABAMA - First larvae of season on pecans in Mobile County. (Deakle).

PECAN NUT CASEBEARER (Acrobasis caryae) - OKLAHOMA - Overwintering larvae reported in pecan terminals in Atoka County, April 19. (Okla. Coop. Sur.).

EUROPEAN RED MITE (Panonychus ulmi) - OHIO - Overwintering eggs on apple trees in Auglaize and Hardin Counties. Most buds at tight cluster stage. (Fox).

GREEN PEACH APHID (Myzus persicae) - UTAH - Caused moderate curling of peach foliage in Washington County. (Huber).

CITRUS

CITRUS WHITEFLY (Dialeurodes citri) - CALIFORNIA - Heavy, adults 100+ per leaf at Sacramento, Sacramento County. (Cal. Coop. Rpt.).

SMALL FRUITS

WHITELINED SPHINX (Hyles lineata) - CALIFORNIA - Larvae heavy on new grape plantings in Santa Barbara County. (Cal. Coop. Rpt.).

ORNAMENTALS

IVY APHID (Aphis hederae) - OKLAHOMA - Specimens from English ivy in Muskogee, Muskogee County. This is a new county record. (Okla. Coop. Sur.).

FOREST AND SHADE TREES

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - Population increase noted in southeastern United States. Populations at serious outbreak levels in portions of LOUISIANA, MISSISSIPPI, ALABAMA, SOUTH CAROLINA, and GEORGIA. Infestations increasing in TEXAS, ARKANSAS, NORTH CAROLINA, and VIRGINIA. (South. For. Pest. Rptr., Apr.) See map on page 254. (PP).

CALIFORNIA OAKWORM (Phryganidia californica) - CALIFORNIA - Larvae, up to 12 per tip, defoliated 2,500-3,000 acres of oak in Contra Costa County. Very little biological control effects this pest. (Cal. Coop. Rpt.).

SPRING CANKERWORM (Paleacrita vernata) - KANSAS - Very heavy on elms in Topeka, Shawnee County; 25-50 percent foliage consumed on leafed out trees. On many trees not yet leafed out, larvae damaged buds so many of these trees may not leaf out for some time. Early instars heavy on elm in Seneca, Nemaha County. Trace in Thomas, Ness, and Hodgeman Counties. Many trees in Topeka banded with sticky compound to deter moths from climbing trunks. Infestations still heavy. (Bell).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - WISCONSIN - Hatch on April 27, 10 days later than in 1971. (Wis. Ins. Sur.).

COOLEY SPRUCE GALL APHID (Adelges cooleyi) - PENNSYLVANIA - Egg laying underway at Mifflintown, Juniata County. Needles heavily infested in several acres of Christmas tree plantings; twisted needles abundant on 1971 growth. (Adams).

MAN AND ANIMALS

SCREWWORM (*Cochliomyia hominivorax*) - Total of 421 cases reported in U.S. April 23-29 as follows: TEXAS: Atascosa 12, Bandera 4, Bastrop 2, Bee 13, Bexar 2, Brooks 19, Burleson 1, Burnet 1, Cameron 4, Comal 2, Coryell 2, De Witt 6, Dimmit 12, Duval 14, Frio 9, Goliad 13, Gonzales 5, Guadalupe 1, Hays 1, Hidalgo 28, Hill 1, Hudspeth 1, Jackson 1, Jim Hogg 19, Jim Wells 13, Karnes 6, Kendall 2, Kenedy 14, Kerr 2, Kinney 9, Kleberg 6, La Salle 13, Lavaca 1, Live Oak 9, Maverick 8, McMullen 6, Medina 12, Nueces 4, Patricio 11, Presidio 1, Reagan 1, Real 4, Refugio 7, Schleicher 1, Sterling 1, Starr 24, Terrell 1, Uvalde 11, Val Verde 4, Victoria 8, Webb 23, Willacy 4, Wilson 5, Williamson 1, Winkler 1, Zapata 26, Zavala 2. ARIZONA: Cochise 3, Pinal 2. NEW MEXICO: Hidalgo 1. CALIFORNIA: Riverside 1. Total of 451 laboratory-confirmed cases reported in portion of Barrier Zone in Republic of Mexico as follows: Baja California 9, Sonora 190, Chihuahua 47, Coahuila 55, Nuevo Leon 89, Tamaulipas 61. Total of 52 cases reported in Mexico south of Barrier Zone. Barrier Zone is area where eradication operation underway to prevent extablishment of self-sustaining population in U.S. Sterile screwworm flies released: Texas 116,284,000; New Mexico 200,000; Arizona 11,280,000; California 200,000; Mexico 40,980,000. (Anim. Health).

HORN FLY (*Haematobia irritans*) - TEXAS - Heavy, ranged 400-3,000 per head of cattle in Presidio County. These populations abnormally heavy for this dry season. (Neeb). OKLAHOMA - Counts declined on Payne County cattle due to cool, rainy weather. Ranged 200-250 per head. Moderate in Craig, Tulsa, Lincoln, and Garvin Counties. (Okla. Coop. Sur.).

MOSQUITOES - MINNESOTA - Larval collections week ending April 22 contained mostly spring *Aedes* in Ramsey and Hennepin Counties. Fifteen percent of collections contained *A. excrucians*, 8.6 percent *A. stimulans*, 3 percent *A. spencerii*, 2.6 percent *A. fitchii*, and 1.6 percent *A. abserratus*. (Minn. Pest Rpt.).

CATTLE LICE - OKLAHOMA - Mainly *Haematopinus eurysternus* (short-nosed cattle louse) continue heavy on cattle in Pontotoc, Lincoln, and Hughes Counties. (Okla. Coop. Sur.).

BROWN RECLUSE SPIDER (*Loxosceles reclusa*) - NEBRASKA - Single specimen collected in office in Grand Island, Hall County, on March 16, by L. Opp. Determined by R.E. Roselle. This is a new county record. (Keith).

BENEFICIAL INSECTS

CONVERGENT LADY BEETLE (*Hippodamia convergens*) - OKLAHOMA - All stages found in northeast area alfalfa. Ranged 8-15 per 10 sweeps in most fields. (Okla. Coop. Sur.).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

CEREAL LEAF BEETLE (*Oulema melanopus*) - INDIANA - Eggs observed on wheat in Franklin County. (Clark). First egg observed in northern district on April 19. (Gutierrez). OHIO - Adult counts per 50 sweeps of 8 to 12-inch tall wheat by county: Van Wert 1; Paulding 1; Putnam 1; Allen 3-4; and Hancock 0-1. Adult in 1 of

25 cornstalks dissected in Wyandot County. Light infestations in these areas may be attributable to fewer wooded overwintering sites. (Fox). PENNSYLVANIA - First of season April 1, in Mercer County. (Shiner). Some damage on wheat in Lawrence County. (Burger, Murnigham, Apr. 18).

GRASSHOPPERS - NORTH DAKOTA - Egg surveys in Cass County show 2 percent of eggs in clear stage, 11 percent coagulated, 50 percent eye spot and 37 percent segmented. Melanoplus bivittatus dominant. Eggs not developed in Ransom and Richland Counties. Development ranged from clear to segmented with 4 percent clear, 27 percent coagulated, 36 percent eye spot and 33 percent segmented. M. sanguinipes dominant in Ransom and Richland Counties. Hatch will probably be later than 1971. Eggs ranged up to 20 pods per square foot in favorable egg laying sites. Very little predator activity evident. No desiccated eggs present. (Brandvik). WYOMING - Situation at Lusk, Niobrara County, study site: Arphia conspersa, Psoloessa delicatula, and Xanthippus corallipes mainly adults observed. (Pfadt).

GYPSY MOTH (Porthetria dispar) - PENNSYLVANIA - Hatch noted. First observed in Milford, Pike County. (Gesell, Apr. 26).

PINK BOLLWORM (Pectinophora gossypiella) - FLORIDA - Native (nonreared, nondyed) adult male collected at Tavernier, Monroe County, April 17 by H.S. Creamer. Determined by V.H. Owens. (Fla. Coop. Sur.).

SWEETPOTATO WEEVIL (Cylas formicarius elegantulus) - ALABAMA - Larvae and adults found during routine surveys in medium to heavy populations on two separate farms in Geneva County in stored sweetpotatoes. (Stephenson).

DETECTION

New County Records - ALFALFA WEEVIL (Hypera postica) - ARKANSAS - Drew (p. 252). BROWN RECLUSE SPIDER (Loxosceles reclusa) - NEBRASKA - Hall (p. 256). IVY APHID (Aphis hederae) - OKLAHOMA - Muskogee (p. 255).

HAWAII INSECT REPORT

General Vegetables - PEPPER WEEVIL (*Anthonomus eugenii*) adults and larval infestation severe in 4+ acres of peppers at Makaha, Oahu. *A. eugenii* first reported in Hawaii in 1933 and isolated reports previously were light. SOUTHERN GREEN STINK BUG (*Nezara viridula*) infestation heavy in yard planting of broccoli and lima beans at Waihee, Maui; damage negligible and light, respectively. All stages trace in 4+ acres of sweet peppers at Makaha, Oahu. Adults of *Trichopoda pennipes* (a tachina fly), light at Waihee; nil at Makaha. (Ah Sam, Kawamura). GREENHOUSE WHITEFLY (*Trialeurodes vaporariorum*) eggs and nymphs heavy in 5,000 square feet of see-qua (*Luffa acutangula*) at Waianae, Oahu; adults trace. (Kawamura).

Forest and Shade Trees - AN EURASIAN PINE APHID (*Pineus pini*) damaged about 800 *Pinus* spp. trees along Saddle Road during March on Hawaii. At Waikii, noticeable buildup noted on *Pinus radiata* trees. Release of chamaemyiid flies, *Leucopis militia* and *L. nigraluna*, purposely introduced from Pakistan for control of *P. pini* made at these sites in mid-March. (Yoshioka).

Beneficial Insects - Parasitism of cowpea and snap bean material infested by BEAN FLY (*Melanagromyza phaseoli*) ranged 83-100 percent on Kauai. *Opius phaseoli* and *O. importatus* (braconids) species involved at this location. Adults of *Opius* spp. moderate in infested yard planting of snap bean on Maui. (Sugawa, Miyahira).

NATIONAL WEATHER SERVICE'S 30-DAY OUTLOOK

MAY 1972

The National Weather Service's 30-day outlook for May is for temperatures to average above seasonal normals from the Great Plains to the Atlantic coast except for near normal in western portions of the northern and central Plains and along the east coast from the Carolinas to southern New England. Below normal averages are indicated for the western quarter of the Nation. Precipitation is expected to exceed normal over the northern Plains. Subnormal totals are indicated for the eastern quarter of the Nation as well as the south Pacific coast, the southern Plateau and the Rio Grande Valley. Elsewhere near normal precipitation is in prospect.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the National Weather Service. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price $5.00 a year.

Boll Weevil Survival Surveys - Spring 1972

Spring collections of surface ground (woods) trash samples (two square yards per sample) have been completed in six Southern States. Wherever possible, samples were taken from the same locations that were sampled in fall 1971. The number of boll weevil (Anthonomus grandis) adults per acre of ground trash examined and the percent survival are reported in the following paragraphs. For details of the fall (1971) hibernation survey in these six States, see CEIR 22(6):35-38.

In NORTH and SOUTH CAROLINA, samples were collected during the period March 14-April 3 in the same four representative areas in which examinations were made in fall 1971. In each area, 30 locations (farm sites) were sampled with 3 samples taken at each location. The areas are as follows: South-central South Carolina (Orangeburg, Dorchester, and Bamberg Counties), Coastal Plain of South and North Carolina (Florence, Darlington, and Marlboro Counties, S.C., and Scotland County, N.C.), Piedmont section of South and North Carolina (Greenville, Anderson, and Spartanburg Counties, S.C., and Mecklenburg, Cleveland, and Union Counties, N.C.), and North-central North Carolina (Northampton, Nash, Halifax, and Edgecombe Counties). The average number of live weevils per acre in these areas was 161, 1,747, 1,963, and 215, respectively. Percent survival for these areas was 5.0, 39.8, 28.3, and 12.5, respectively. Percent survival was lowest in South-central South Carolina and highest in the Coastal Plains of South and North Carolina. In Florence County, South Carolina, where spring examinations have been made since 1938, an average of 1,668 weevils per acre was found in spring,1972. This is a winter survival of 38.8 percent, 61 percent lower than 1971. (Taft, Hopkins).

Survey in TENNESSEE was conducted in Hardin, McNairy, Hardeman, and Fayette Counties. Spring counts indicate an average of 1,120 live weevils per acre. There are enough weevils to cause concern during the 1972 season if weather conditions are favorable for weevil reproduction. (Locke).

Collections in MISSISSIPPI were started February 28 and all examinations completed by March 7. Three samples were taken from each location, and 7 or 8 locations were sampled in each county. Two counties made up each area and the State was divided into the following four areas: South Delta (Sharkey and Yazoo Counties), Central Delta (Washington and Leflore Counties), North Delta (Coahoma and Panola Counties), and Hill Section (Holmes and Tate Counties). Forty-five samples were taken from 15 locations in each of the 4 areas. The average number of weevils per acre was 918 in the South Delta, 324 in the Central Delta, 432 in the North Delta, and 1,458 in the Hill Section. The State average for 1972 was 783 compared with 864 in 1971, 229 in 1970, 810 in 1969, 540 in 1968, and 1,525 in 1967. Percent survival by area was: South Delta 30.91, Central Delta 25.00, North Delta 6.61, and Hill Section 16.56. The State average percent survival was 15.98 compared with 29.77 in 1971, 7.39 in 1970, 29.27 in 1969, 8.57 in 1968, and 51.60 in 1967. (Pfrimmer).

Survey in northeast LOUISIANA was conducted March 6-15. Collections were made at 45 locations in the 5-parish area as follows: Madison

20 locations, Tensas 10 locations, and 5 locations each in East Carroll, West Carroll, and Richland Parishes. A total of 135 samples was taken. The average number of weevils per acre of trash was 2,985 in Madison Parish, 888 in Tensas Parish, 968 in East Carroll Parish, 1,291 in West Carroll Parish, and 6,131 in Richland Parish, or an average of 2,456 weevils per acre for the 5-parish area. Winter survival in the area was 40.05 percent compared with 48.3 percent in spring 1971. In Madison Parish, where the records have been made for the past 37 years, there have been only five years when the number of weevils has been higher than in spring 1972. The 2,985 weevils per acre is a 49 percent survival of the 6,090 weevils per acre entering hibernation in the fall of 1971.

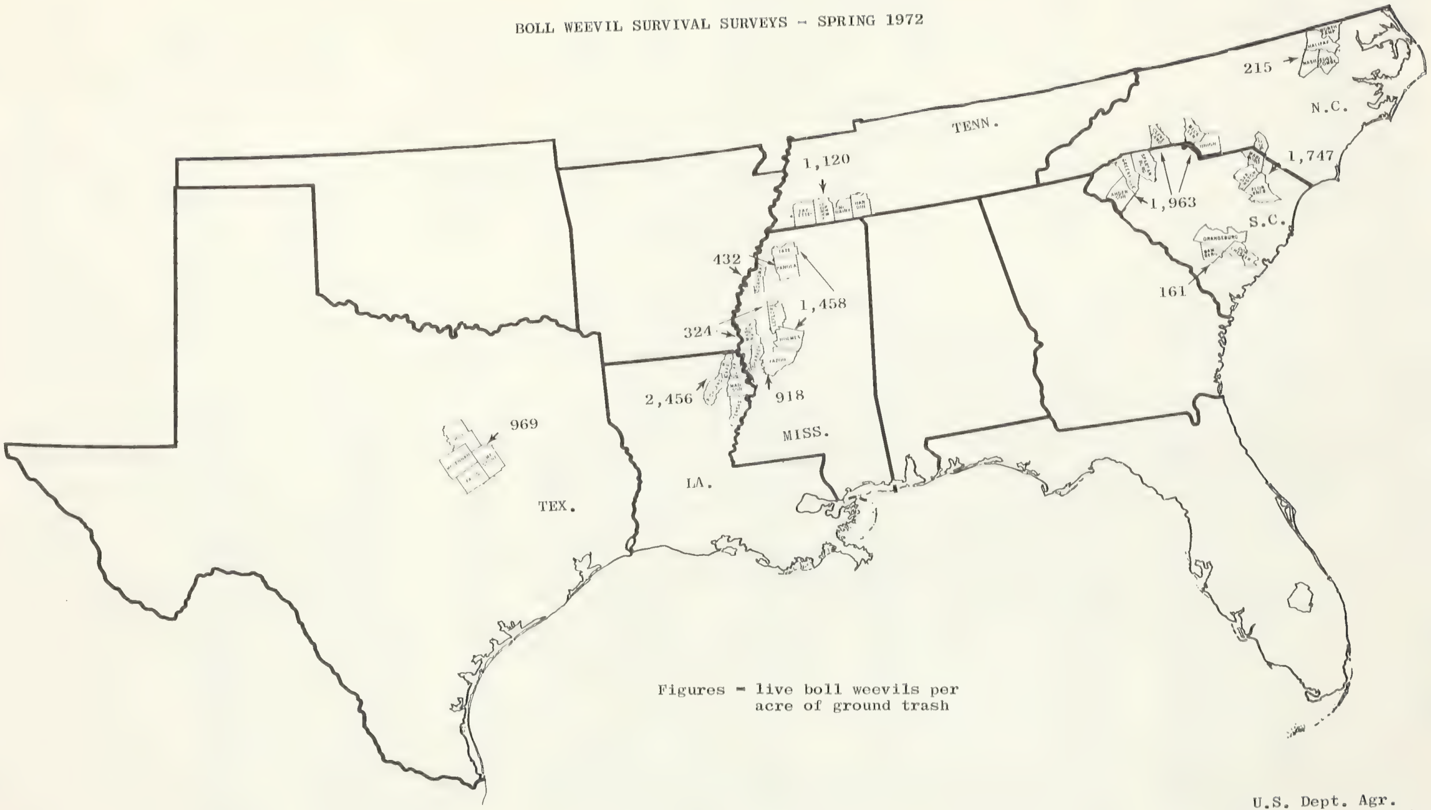
There were only 20 days during this period when the temperature was 32 degrees F. or less and seven days when the temperature was 25 degrees F. or less. There were two days when the temperature did not exceed 32 degrees F. The lowest temperature recorded was 17 degrees F. on January 16. (Cleveland et al.).

In central TEXAS, spring collections were started March 7 and all examinations completed by March 10 in Falls, Hill, Limestone, and McLennan Counties. Three samples were taken from each location and 6 or 7 locations were sampled in each county; 75 samples were taken from 25 locations in the 4 counties. The average number of weevils found per acre was 538 in Falls County, 1,075 in Hill County, 672 in Limestone County, and 1,490 in McLennan County, with an area average of 969. Winter survival was 23.3 percent compared with 59.8 in 1971, 15.7 in 1970, 70 in 1969, 14.4 in 1968, and 26.5 in 1967. In the 13 years the survey has been conducted, only 4 years (1963, 1964, 1968, and 1970) had a lower indicated spring survival than 1972. Percent survival was lower in 1972 than any year except 1964, 1968, and 1970. Winter weather was mild with subfreezing temperatures on only 19 days. A minimum of 18 degrees F. was recorded January 5. For the period November 1, 1971, through March 7, 1972, rainfall totaled 8.65 inches, or 0.97 inches below normal for the period. (Cowan).

BOLL WEEVIL SURVIVAL SURVEYS - SPRING 1972

Area (County and State)	Number of Weevils per Acre 1971	Number of Weevils per Acre 1972
NORTH and SOUTH CAROLINA		
South-central South Carolina (Orangeburg, Bamberg, and Dorchester Counties).	484	161
Coastal Plain of South and North Carolina (Florence, Darlington, and Marlboro Counties, S.C.; Scotland County, N.C.).	2,500	1,747
Piedmont of South and North Carolina (Anderson, Greenville, and Spartanburg Counties, S.C.; Mecklenburg, Cleveland, and Union Counties, N.C.).	726	1,963
North Central North Carolina (Nash, Halifax, Northampton, and Edgecombe Counties).	80	215
TENNESSEE		
Southern Tier of Counties (Fayette, Hardeman, McNairy, and Hardin Counties).	747	1,120
MISSISSIPPI		
South Delta (Sharkey and Yazoo Counties).	1,026	918
Central Delta (Washington and Leflore Counties).	378	324
North Delta (Coahoma and Panola Counties).	594	432
Hill Section (Holmes and Tate Counties).	1,458	1,458
LOUISIANA		
Northeastern (Madison, Tensas, East Carroll, West Carroll, and Richland Parishes).	4,087	2,456
TEXAS		
Central (Falls, Hill, Limestone, and McLennan Counties).	2,030	969

BOLL WEEVIL SURVIVAL SURVEYS - SPRING 1972



Figures - live boll weevils per
acre of ground trash

U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
22(18):262, 1972

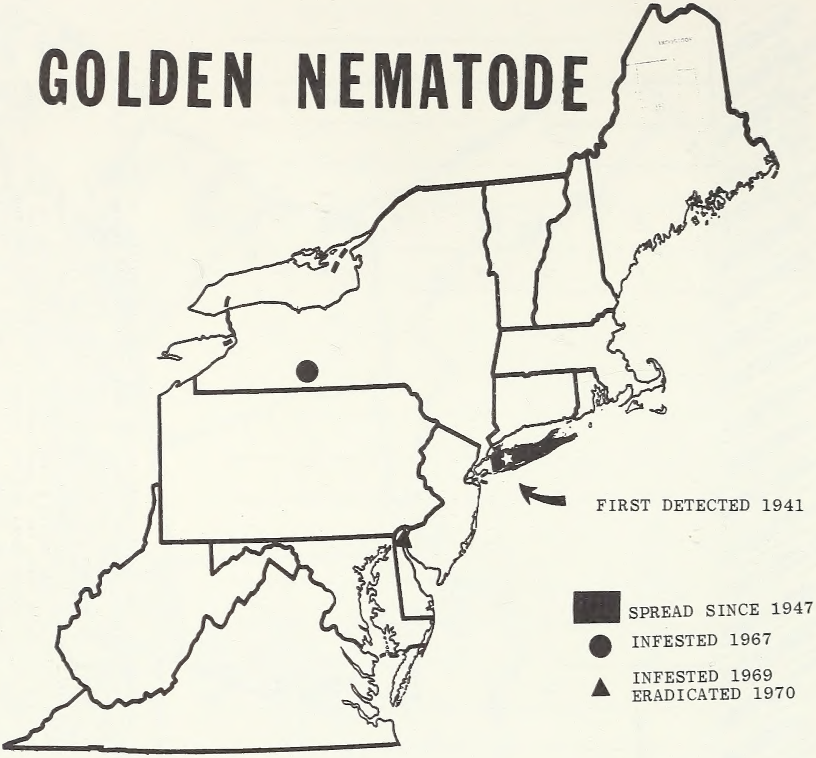
LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap BL = blacklight I = incandescent MV = mercury vapor O = other	*Agrotis ipsilon* (black cutworm)	*Estigmene acrea* (saltmarsh caterpillar)	*Euxoa auxiliaris* (army cutworm)	*Faronta diffusa* (wheat head armyworm)	*Feltia subterranea* (granulate cutworm)	*Heliothis virescens* (tobacco budworm)	*H. zea* (bollworm, corn earworm, tomato fruitworm)	*Laspeyresia pomonella* (codling moth)	*Loxostege commixtalis* (alfalfa webworm)	*Loxostege rantalis* (garden webworm)	*Loxostege sticticalis* (beet webworm)	*Manduca quinquemaculata* (tomato hornworm)	*Manduca sexta* (tobacco hornworm)	*Ostrinia nubilalis* (European corn borer)	*Peridroma saucia* (variegated cutworm)	*Pseudaletia unipuncta* (armyworm)	*Spodoptera exigua* (beet armyworm)	*Spodoptera frugiperda* (fall armyworm)	*Spodoptera ornithogalli* (yellowstriped armyworm)	*Trichoplusia ni* (cabbage looper)	Crops
FLORIDA																								
Gainesville 4/21-27			BL	1				4		2									1					
KANSAS																								
Great Bend 4/18-26			BL			8	2											7	14					
KENTUCKY																								
Lexington 4/24-28			BL																39			1		
MISSISSIPPI																								
State College 4/21-27			BL	9	2			17		6								2	5			1		
Stoneville 4/21-27	46-85	1.30	BL															3	20			11		
MISSOURI																								
Portageville 4/14-20			BL	4														11	60					
" 4/21-27			BL	1														2	12					
NEBRASKA																								
Lincoln 4/19-28			BL	33		5												29	7					
OHIO																								
Wooster 4/24-27			BL																8					
TENNESSEE																								
Dyer 4/24-28			BL	20														16	39			2	3	
Hardeman 4/24-28			BL	6				2		2							3	3	16			3		
Lake 4/24-28			BL	4														8	58			1	1	
TEXAS																								
Waco 4/19-27			BL	7				37										6	1	1		9		

Weather of the week continued from page 250.

TEMPERATURE: Cold air moving into mid-America from Canada early in the week held temperatures to 10 degrees or more cooler than seasonal. Mild weather continued across the South from California to Florida. Some Monday afternoon temperatures were; Blythe, California, 97 degrees, Cotulla, Texas, 93 degrees, Fort Myers and Palm Beach, Florida, 87 degrees. Air over southwestern deserts was very dry. Relative humidity at Blythe, California, was 2 degrees. A large high was centered over Wisconsin Tuesday. Temperature at Duluth, Minnesota, dropped to 12 degrees, the coldest temperature of record for so late in season at Duluth. Brisk southerly winds behind a high warmed the Great Plains. In some areas, winds gusted 25-50 m.p.h. raising clouds of dust, and in southwestern deserts sand filled the air. A low crossed the Colorado Rockies to the western Great Plains. Southerly winds preceded the storm, northerly winds followed the storm, temperature at Alamosa, Colorado, dropped to 25 degrees Wednesday morning, due to cool northerly winds Thursday morning. Temperature at Burlington, Vermont, dropped to 22 degrees, the coldest on record for so late in season. The weekend began sunny and cool over much of the Nation until a storm developed over the central Rocky Mountains. It brought another mass of cold air to the Great Basin and Rocky Mountains and mild temperatures to mid-America. Weekly mean temperatures were below normal over most of the Nation. Parts of the Northwest and central Great Plains averaged 6 or more degrees cooler than normal.

GOLDEN NEMATODE



The first record of the GOLDEN NEMATODE (*Heterodera rostochiensis*) was from Germany in 1881, and at that time it was considered a strain of *H. schactii*. In 1909 it was established that potatoes were hosts of this nematode, but not until 1923 was it described as a completely different species by Wollenweber. This nematode attracted little attention until 1913, when it was found in Scotland. It has been found in most of the European countries and parts of South America and Asia. It is now recognized as a major potato pest in Europe, especially England, where it is prevalent in 65 to 75 percent of the fields in the important potato-growing areas.

The golden nematode was first discovered in North America in 1941, when it was found to be responsible for damage in a field of potatoes south of Hicksville, Nassau County, Long Island, New York. The source and time of introduction of the pest in this country is not known. Infestations have been found in Nassau, Suffolk, and Steuben Counties, New York, and in New Castle County, Delaware, in the United States. Plant material imported from Europe has been required to be free from soil since June 1, 1919. However, in recent years golden nematode cysts have been recovered and identified from numerous interceptions made by plant quarantine inspectors of soil particles and debris contained in shipments of plants, bulbs, packing material, burlap bags and many other articles originating in various countries. (PP).

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